

Edith Cowan University

Research Online

ECU Publications Post 2013

8-26-2020

Survival rates of head and neck cancers in Ghana: a retrospective study at the Komfo Anokye Teaching Hospital

Osei Owusu-Afriyie

W. K.B.A. Owiredu

Alexander Acheampong Oti

Emmanuel Acheampong

Edith Cowan University, e.acheampong@ecu.edu.au

Kwabena Owusu-Danquah

See next page for additional authors

Follow this and additional works at: <https://ro.ecu.edu.au/ecuworkspost2013>



Part of the [Medicine and Health Sciences Commons](#)

[10.1186/s13104-020-05233-9](https://doi.org/10.1186/s13104-020-05233-9)

Owusu-Afriyie, O., Owiredu, W. K. B. A., Oti, A. A., Acheampong, E., Owusu-Danquah, K., Larsen-Reindorf, R., ... & Donkor, P. (2020). Survival rates of head and neck cancers in Ghana: a retrospective study at the Komfo Anokye Teaching Hospital. *BMC Research Notes*, 13(1), 1-3. <https://doi.org/10.1186/s13104-020-05233-9>

This Journal Article is posted at Research Online.

<https://ro.ecu.edu.au/ecuworkspost2013/8580>

Authors

Osei Owusu-Afriyie, W. K.B.A. Owiredu, Alexander Acheampong Oti, Emmanuel Acheampong, Kwabena Owusu-Danquah, Rita Larsen-Reindorf, Linda Ahenkorah Fondjo, Evans Asamoah Adu, Sampson Donkor, and Peter Donkor

DATA NOTE

Open Access



Survival rates of head and neck cancers in Ghana: a retrospective study at the Komfo Anokye Teaching Hospital

Osei Owusu-Afriyie^{1,2*}, W. K. B. A. Owiredu¹, Alexander Acheampong Oti⁵, Emmanuel Acheampong^{1,6}, Kwabena Owusu-Danquah³, Rita Larsen-Reindorf⁴, Linda Ahenkorah Fondjo¹, Evans Asamoah Adu¹, Sampson Donkor¹ and Peter Donkor⁵

Abstract

Objective: Data was collected to evaluate the survival rates of head and neck (conjunctiva, oropharyngeal and non-oropharyngeal) squamous cell carcinomas in Ghana.

Data description: We provided data on a retrospective review of 8 years (January 2004 to December 2009) survival rate of head and neck squamous cell carcinomas (HNSCCs) at the Komfo Anokye Teaching Hospital in Ghana. The data consist of patient demographic data and clinicopathological findings which includes tumour site, tumour stage and histological grades of the patients. Clinical outcome measurement was death through to January 2013 on record and confirmed from the hospitals birth and death registry department. More than 85% of death cases were confirmed by gender, age, and folder identification numbers from the birth and death registry.

Keywords: HNSCCs, Survival period, Conjunctiva, Oropharyngeal

Objective

Head and neck squamous cell carcinomas (HNSCCs) are heterogeneous tumours that develop in the oral cavity, oropharynx, hypopharynx, and larynx [1]. The incidence of HNSCCs vary broadly in Africa [2, 3] compared with that in western societies [4] largely because of wide variation in population size, economic status, ethnic origin, and belief in traditional medicine existing in Africa [5]. In Ghana, tumors of the pharynx and larynx represents 7.4% and 3.5% of all malignancies, and the second and seventh most common types of cancers, respectively seen at the National Hospital [6]. Also, data existing at the Komfo Anokye Teaching Hospital (KATH) indicate that tumors of the pharynx, larynx and oral cavity formed the

largest group of HNSCCs, and most patients' presents with late-stage disease [7, 8].

Despite recent advances in the diagnosis and treatment of head and neck cancer, there has been little evidence of improvement in survival rates over the last few decades [9]. Independent of the numerous reports on the epidemiology and molecular characteristics of HNSCCs in Ghana, there is a dearth of data on the survival rate of patients. The first attempt at population-based cancer registration was set up in 2012 however, it would take a few years to generate survival data. Identifying the need for survival analysis, we retrospectively compiled data on HNSCCs from the pathological perspective at KATH in Ghana over a period of 8 years.

Data description

All patients referred to KATH or diagnosed by the multi-disciplinary team of doctors at the facility for HNSCCs are presented at a weekly meeting to the head and neck

*Correspondence: drooafriyie@yahoo.com

¹ Department of Molecular Medicine, School of Medical Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
Full list of author information is available at the end of the article



© The Author(s) 2020. This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Table 1 Overview of data files/data sets

Label	Name of data file/data set	File types (file extension)	Data repository and identifier (DOI or accession number)
Data file 1	General overview of data	MS Excel file (.xlsx)	Figshare (https://doi.org/10.6084/m9.figshare.9878258.v2)
Data file 2	Cox regression analysis	MS Excel file (.xlsx)	Figshare (https://doi.org/10.6084/m9.figshare.9878258.v2)
Figure 1	Survival analysis curves	tiff	Figshare (https://doi.org/10.6084/m9.figshare.9878414.v1)
Data set 1	Excel sheet of data set on HNC cases from 2004–2009	MS Excel file (.xlsx)	Figshare (https://doi.org/10.6084/m9.figshare.9878360.v2)

cancer clinic. As a routine management and monitoring plan, cases are discussed and a management plan decided upon. Data were obtained by retrospective review of all consecutive patient records seen at the multidisciplinary clinic from January 2004 to December 2009 and the survival probability data (Dataset 1) is included in Table 1 [10]. Demographic and basic health information was collected for all participants, along with pathology reports and tumor characteristics for HNSCC cases. Patient's records were reviewed and staged according to the current World Health Organization's International Classification of Disease coding system. Initial data obtained were evaluated for missing information and coded in Microsoft Excel sheet (Microsoft Office Professional Plus 2013). Overview of the Data file 1 [11] has been shown in Table 1.

For clear and concise data that clearly answer our objectives, cases with lip cancer, substitute interview data, missing covariate information, distant metastasis, and site not otherwise specified were excluded. Therefore, we limited our data curation to 299 cases alive 1-year post-diagnosis. Outcome measurement was death through January 1, 2013 on record and confirmed from the hospitals birth and death registry department. More than 85% of death cases were confirmed by gender, age, and folder identification numbers from the birth and death registry. Survival function (Fig. 1) and cox regression analysis data (Data file 2) is also shown in Table 1 [11, 12]. The study was approved by the Committee on Human Research and Publication Ethics, Kwame Nkrumah University of Science and Technology as well as the Ethical committee board of KATH.

Limitations

The data reflect specific patient population reporting to KATH, thus making it an institutional-based study and may not reflect the true picture of the situation in the entire Ghana population. In addition, the data does not constitute information on the treatment regimen, clinical symptoms, and socio-demographical characteristics, however age, gender and clinicopathological features were available for analysis.

Abbreviations

HNSCCs: Head and neck squamous cell carcinomas; KATH: Komfo Anokye Teaching Hospital; HR: Hazard ratio.

Acknowledgements

We acknowledge the efforts of the multi-disciplinary team of doctors at the Head and Neck cancer clinic at the Komfo Anokye Teaching Hospital, Ghana.

Authors' contributions

Conceived and designed the techniques for data curation: OOA; WKBAO; AAO; EA; LAF; KOD; RLR. Involved in the data curation: EAA, SD, PD. Analyzed the data: OOA, EA, and EAA. Contributed materials/analysis tools: LAF, KOD, WKBAO, RLR and AAO. Wrote the paper: EA, EAA, AAO, SD, and PD. All authors read and approved the final manuscript.

Funding

No external or internal source of funding was obtained for this study.

Availability of data materials

The data described in this data note is available and can be freely and openly accessed. Refer to Table 1 for the link to each data file; Data file 1 and 2 [11], Dataset 1 [10] Fig. 1 [12].

Ethical approval and consent to participate

The study was approved by the committee on Human Research Publication Ethics, Kwame Nkrumah University of Science and Technology. Also the ethical board at the Komfo Anokye Teaching Hospital approved.

Consent for publication

Not applicable.

Competing interests

The author declares that they have no competing interest.

Author details

¹ Department of Molecular Medicine, School of Medical Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. ² Department of Pathology, Komfo Anokye Teaching Hospital, Kumasi, Ghana. ³ Department of Medical Laboratory Technology, Faculty of Allied Health, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. ⁴ Directorate of Dental, Eye, Ear, Nose & Throat, Komfo Anokye Teaching Hospital, Kumasi, Ghana. ⁵ Department of Maxillofacial Surgery, Dental School, KNUST, Kumasi, Ghana. ⁶ School of Medical and Health Science, Edith Cowan University, Joondalup, Australia.

Received: 21 September 2019 Accepted: 14 August 2020

Published online: 26 August 2020

References

- Osei-Sarfo K, Tang XH, Urvalek AM, Scognamiglio T, Gudas LJ. The molecular features of tongue epithelium treated with the carcinogen

- 4-nitroquinoline-1-oxide and alcohol as a model for HNSCC. *Carcinogenesis*. 2013;34(11):2673–81.
2. Laryea DO, Awuah B, Amoako YA, Osei-Bonsu E, Dogbe J, Larsen-Reindorf R, et al. Cancer incidence in Ghana, 2012: evidence from a population-based cancer registry. *BMC Cancer*. 2014;14(1):362.
 3. Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. *Cancer J Clin*. 2005;55(2):74–108.
 4. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *Cancer J Clin*. 2018;68(6):394–424.
 5. Sanderson RJ, Ironside JAD. Squamous cell carcinomas of the head and neck. *BMJ*. 2002;325(7368):822–7.
 6. Calys-Tagoe BN, Yarnes J, Kenu E, Amanhyia NA, Enchill E, Obeng I. Profile of cancer patients' seen at Korle Bu teaching hospital in Ghana (a cancer registry review). *BMC Res Notes*. 2014;7:577.
 7. Owusu-Afriyie O, Owiredu W, Owusu-Danquah K, Komarck C, Foltin SK, Larsen-Reindorf R, et al. Expression of immunohistochemical markers in non-oro-pharyngeal head and neck squamous cell carcinoma in Ghana. *PLoS ONE*. 2018;13(8):e0202790.
 8. Larsen-Reindorf R, Owusu-Afriyie O, Acheampong AO, Boakye I, Awuah B. A six-year review of head and neck cancers at the Komfo Anokye Teaching Hospital, Kumasi, Ghana. *Int J Otolaryngol Head Neck Surg*. 2014;3(05):271.
 9. Adeyi A, Olugbenga S. The challenges of managing malignant head and neck tumors in a tropical tertiary health center in Nigeria. *Pan Afr Med J*. 2011;10:31.
 10. Osei O-A, William KO, Alexander AO, Emmanuel A, Kwabena O-D, Rita L-R, et al. Retrospective Dataset for head and Neck Squamous cell carcinomas (2004–2009)2019.
 11. Osei O-A, William KO, Alexander AO, Emmanuel A, Kwabena O-D, Rita L-R, et al. Data file 1.xlsx2019. <https://doi.org/10.6084/m9.figshare.9878360.v2>
 12. Osei O-A, William KO, Alexander AO, Emmanuel A, Kwabena O-D, Rita L-R, et al. Head and Neck cancer survival curves2019. <https://doi.org/10.6084/m9.figshare.9878414.v1> <https://doi.org/10.6084/m9.figshare.9878414.v1>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions

